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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,139	02/06/2006	Jean Michel Martin	023971-0642	8913

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EXAMINER	
PILKINGTON, JAMES	
ART UNIT	**PAPER NUMBER**
3656	

MAIL DATE	DELIVERY MODE
12/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,139	MARTIN ET AL.	
	Examiner	Art Unit	
	JAMES PILKINGTON	3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 February 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 9/7/07 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Neither JP 2777750 and the NPL document have been provided.

The Applicant noted in the remarks that other reference where crossed out in the IDS statements, these additional reference where duplicates of documents cited on another IDS statement. The two missing documents noted above still have not been provided.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: A, B, C and D. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 14 and 15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Both claims repeat the last clause stated in independent claims 1 and 10. Claims 14 and 15 positively recite less structure than that which is claimed in claims 1 and 10 rendering their overall claim scope unclear. Is the Applicant only attempting to claim a low friction agent in claims 14 and 15? If so, reference to claims 1 and 10 should be removed from these claims since such a reference incorporates all that which is claimed in claims 1 and 10.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10 and 12-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Konishi, USP 6,969,198.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 7, 8, 10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Rubin, UPS 5,064,547.

Pope discloses a low-friction sliding mechanism wherein:

- the DLC coated sliding member (races in Figures 2H-1, 2H-2 and 2K-1) is formed by coating diamond-like carbon on a base material (polycrystalline diamond, PDC);
- the sliding member (roller in Figure 2K-1) is formed with at least one kind of material selected from a group consisting of a metal material, a non-metal material and a coated material obtained by coating a thin film on a surface of the metal material or the non-metal material (roller is coated with PDC (clm 2)

Pope does not disclose the use of a low-friction agent composition that contains at least one kind selected from a group consisting of an oxygen-containing organic compound (C) and an aliphatic amine compound (D) between the two sliding members, wherein the oxygen-containing organic compound is a carboxylic acid and is contained in the range of 0.05 to 3.0% relative to the total mass amount of low-friction agent composition.

Rubin teaches a low-friction agent composition (lubricant) that contains an oxygen-containing organic compound which is a carboxylic acid (dicarboxylic acid, dimer acids, polycarboxylic acid, see C6/L40-68) and is contained in a range of 0.05 to 3.0% by mass (weight, C4/L50-59) for the purpose of providing a lubricant with corrosion inhibiting properties (C5/L66-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope and provide a low-friction agent composition that contains an oxygen-containing organic compound of carboxylic acid in a range of 0.05-3% of the total mass amount of low-friction agent composition, as taught by Rubin, for the purpose of providing a lubricant with corrosion inhibiting properties.

Claims 1, 2, 9, 10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Buckley III, UPS 5,108,633.

Pope discloses a low-friction sliding mechanism wherein:

- the DLC coated sliding member (races in Figures 2H-1, 2H-2 and 2K-1) is formed by coating diamond-like carbon on a base material (polycrystalline diamond, PDC);
- the sliding member (roller in Figure 2K-1) is formed with at least one kind of material selected from a group consisting of a metal material, a non-metal material and a coated material obtained by coating a thin film on a surface of the metal material or the non-metal material (roller is coated with PDC (clm 2))

Pope does not disclose the use of a low-friction agent composition that contains at least one kind selected from a group consisting of an oxygen-containing organic compound (C) and an aliphatic amine compound (D) between the two sliding members, wherein the aliphatic amine compound has a hydrocarbon group having 6-30 carbon atoms and is contained in the range of 0.05 to 3.0% relative to the total mass amount of low-friction agent composition.

Buckley III teaches a low-friction agent composition (lubricant, C4/L36-47) that contains an aliphatic amine compound (C12/L5-37), wherein the aliphatic amine compound has a hydrocarbon group having 6-30 carbon atoms (C6-C12 disclosed, see C12/L5-37) and is contained in a range of 0.05 to 3.0% (weight, C12/L5-37) for the purpose of providing dispersancy and/or detergency to the lubricant (C4/L36-47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope and provide a low-friction agent composition that contains an aliphatic amine compound, wherein the aliphatic amine compound has a hydrocarbon group having 6-30 carbon atoms and is contained in a range of 0.05 to 3.0% by mass, as taught by Buckley III, for the purpose of providing dispersancy and/or detergency to the lubricant.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Rubin, UPS 5,064,547 as applied to claim 1 above and further in view of Veerasamy, USP 7,067,175.

Pope as applied above does not disclose that the DLC has a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen.

Veerasamy teaches a DLC which is an a-C diamond like carbon (ta-C) which does not contain hydrogen (C8/L35-36) for the purpose of repelling water and reducing corrosion (C1/L15-21).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope and provide for the DLC to have a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen, as taught by Veerasamy, for the purpose of repelling water and reducing corrosion.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Buckley III, UPS 5,108,633 as applied to claim 1 above and further in view of Veerasamy, USP 7,067,175.

Pope as applied above does not disclose that the DLC has a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen.

Veerasamy teaches a DLC which is an a-C diamond like carbon (ta-C) which does not contain hydrogen (C8/L35-36) for the purpose of repelling water and reducing corrosion (C1/L15-21).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope and provide for the DLC to have a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no

hydrogen, as taught by Veerasamy, for the purpose of repelling water and reducing corrosion.

Response to Arguments

Applicant's arguments filed October 23, 2009 have been fully considered but they are not persuasive.

Regarding the drawings that Applicant argues that A, B, C and D are references signs that refer generally to parts of the invention as a whole and thus not shown in the drawings.

A, B, C and D are still reference signs linked to specific structure recited in both the claims and the specification. Without the reference signs in the drawings the drawings fail to comply with 37 CFR 1.84(p)(5).

Regarding the rejection under 35 USC 102(e): the Applicant has not provided proper documentation to overcome this rejection. The Terminal Disclaimer has been disapproved since the words “legal title” do not include common ownership as to equitable title, see 1.37 CFR 1.321(c)(3).

Regarding the rejections under 35 USC 103: the Applicant argues that (A) none of the references teach the combination of a diamond-like carbon and a low friction agent as claimed, (B) there is no motivation to combine the references and (C) that

there is no showing that it would have been expected that the combination of the references would have provided the unexpected results discovered by the Applicant.

First, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Second, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, motivation is found in Rubin in column 5 lines 66-68 where it states that the lubricant provides a corrosion inhibiting property to the device, Buckley III states in column 4 lines 36-47 that the low-friction agent is used to provide a lubricant with adequate dispersancy and/or detergency which would improve bearing life and Veerasamy discloses that using the particular a-C diamond provides a water repelling property to the assembly in column 1 lines 15-21. Third, a mere allegation of unexpected result is not a proper showing of such. If the Applicant wishes to rely on unexpected results the evidence should be submitted by 37 CFR 1.132. The specification lists comparative

examples but there is no disclosure in these examples as to what was the expected result of using the claimed low friction agent in relation to what actually happened.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PILKINGTON whose telephone number is (571)272-5052. The examiner can normally be reached on Monday - Friday 7-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571)272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/
Examiner, Art Unit 3656
11/23/09

/Thomas R. Hannon/
Primary Examiner, Art Unit 3656